Site Survey Reports

BROWN AND CALDWELL

SURVEYOR'S REPORT

INTRODUCTION

Weidener Surveying & Mapping, P.A. **(WSM)**, LB4207, operating under the authority of the **South Florida Water Management District (the "District")** as a subconsultant to Brown & Caldwell by Work Order No. 1 was tasked with the execution of this Specific Purpose Survey in support of the Cell 4 for the STA 2 Project**.** The purpose of this survey was to provide some spot elevations as requested throughout the project site. **THIS IS NOT A BOUNDARY SURVEY**.

PROJECT LOCATION

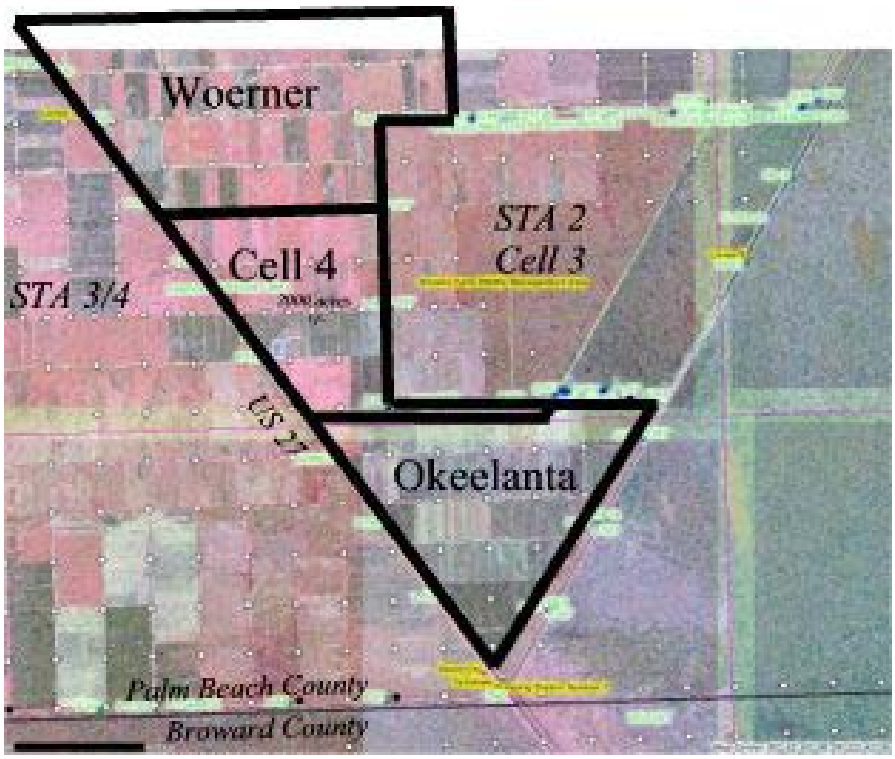
The project area is located in Sections 31, 32 and 33 of Township 46 South, Range 38 East and Sections 5 and 6, Township 47 South, Range 38 East in southwestern Palm Beach County, Florida. The project site may be accessed from U.S. Highway 27 by a bridge across the North New River Canal to the levee road along the project site.

PROJECT APPROACH & EXECUTION

WSM received Notice to Proceed on 16 November 2004 from the District and began work on the project, as scheduled, on 6 October. After some site reconnaissance, WSM recovered sufficient horizontal and vertical control points along U.S. 27 for RTK-GPS. All control meets or exceeds the National Geodetic Survey (NGS) standards for Third Order accuracy and procedural methodology and complies with engineering manuals as specified in the Statement of Work issued by the District for this project.

WSM set no additional horizontal or vertical control points. No pictures were required as part of the project's deliverables package in JPG format or in Microsoft Power Point presentation format.

All field work was completed on 13 October 2004.



HORIZONTAL and VERTICAL CONTROL

Horizontal control is based on the State Plane Coordinate System, Florida East Zone, North American Datum of 1983, Adjustment of 2003. RTK GPS was used to establish horizontal values at the project site.

Vertical control is based on the North American Vertical Datum of 1988. All vertical control used was 2nd Order or better. Supplemental data as requested by contractual obligations is based on the National Geodetic Vertical Datum of 1929. The offset to convert NAVD 88 elevations to NGVD 29 is 1.46' based upon the offset at the N-486.

PRIMARY SURVEY CONTROL USED

Name	PID	Horizontal Order	Vertical Order
N 486	AJ3470	1	2
Q 486	AJ3472	1	2

Condition of recovered monuments were reported to NGS via the NGS Mark Recovery Entry system at NOAA.

RTK GPS PLAN

No GPS plan was necessary for the execution of this work as existing control was used. RTK was used to collect the spot elevations at the site. No problems were encountered. All horizontal control was also held as fixed. Separate adjustments were run for NAVD 88 and for NGVD 29 values.

ISSUES AND PROBLEMS

There were no rights of entry issues for this project. Some roads required keys for the gates to provide entry while others were welded shut and could not be opened. Many of the roads within the site are in either poor condition or overgrown with vegetation.

QA/QC

The project's progress was closely monitored throughout the entire period of work. Drawings were reviewed before the final submittal.

PROJECT DELIVERABLES

As specified and in consideration of the project's Statement of Work issued, the following items were generated by WSM as deliverables (in hardcopy and digital format on CD-ROM) to the District: (1) This Surveyor's Report (in PDF also); (2) GPS raw data files, field logs and sketches; (3) Computation files with horizontal and vertical extracts; (4) Copy of Field Book in digital form (in PDF); (5) Digital AutoCAD drawing files (in PDF also); (6) Six (6) Signed and Sealed copies of survey; (7) Benchmark Forms (in PDF also); (8) X,Y,Z, Descriptor ASCII Files in NAVD 88 datum; (9) X,Y,Z, Descriptor ASCII Files in NGVD 29 datum; (10) Metadata file using Corpsmet95.

CERTIFICATION

(1) This survey meets all applicable requirements of the Florida Minimum Technical Standards as contained in Chapter 61G17-6 FAC. (2) This report is not valid without the signature and the original raised seal of the Florida Surveyor and Mapper in responsible charge. (3) Additions or deletions to this data by anyone other than the signing party are prohibited without written consent of the signing party.

Surveyor and Mapper in Responsible Charge:
Jorge Fernandez, II
Florida Professional Land Surveyor
License No. 5103

For the Firm of:
Weidener Surveying & Mapping, P.A. (LB 4207)
10418 NW 31 Terrace
Miami, Florida 33172

Signed:_____ SEAL

Date:_____

SURVEYOR'S REPORT

INTRODUCTION

Weidener Surveying & Mapping, P.A. **(WSM)**, LB4207, operating under the authority of the **South Florida Water Management District (the "District")** as a subconsultant to Brown & Caldwell by Work Order No. 2 was tasked with the execution of this Specific Purpose Survey in support of the Cell 4 for the STA 2 Project**.** The purpose of this survey was to provide cross-sections, soundings, as-builts and additional detail as requested throughout the project site. **THIS IS NOT A BOUNDARY SURVEY**.

PROJECT LOCATION

The STA2 project area is located in Sections 31, 32 and 33 of Township 46 South, Range 38 East and Sections 5 and 6, Township 47 South, Range 38 East in southwestern Palm Beach County, Florida. The project site may be accessed from U.S. Highway 27 by a bridge across the North New River Canal to the levee road along the project site.

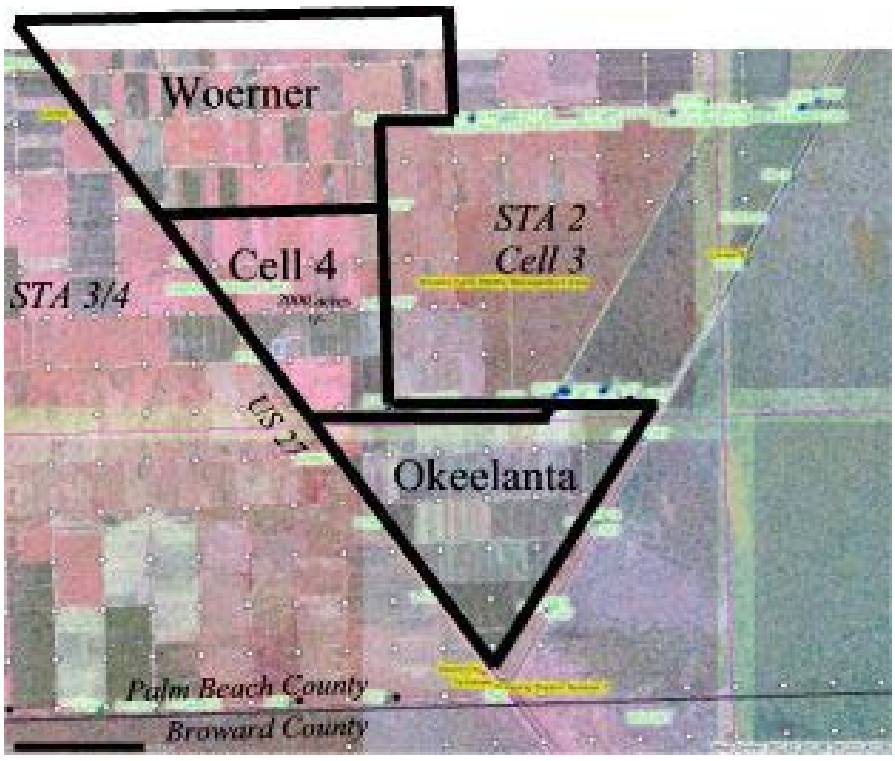
PROJECT APPROACH & EXECUTION

As part of Work Order #1, WSM recovered sufficient horizontal and vertical control points along U.S. 27 for RTK-GPS. We then located with RTK-GPS numerous spot elevation points located throughout the project area in a manner consistent with the project's scope of services. All control meet or exceeded the National Geodetic Survey (NGS) standards for Third Order accuracy and procedural methodology and complies with engineering manuals as specified in the Statement of Work issued by the District for this project.

As part of this work order, WSM set out to accomplish 9 tasks. Task #1 was to run cross-sections along the south side of the existing STA2 from the southwest corner to the existing control structures. Task #2 was to run cross-sections along the west line of the existing STA2 from the northeast corner of Cell 4 to the northwest corner of STA2 and 2 cross-sections to the east along the north side of STA2. Task #3 was to run cross-sections along the north line of Cell 4. Task #4 was to run cross-sections along the south line of Cell 4 and to extend existing cross-sections easterly along the west line of Cell 4. Task #5 was to run cross-sections along interior roads within Cell 4. Task #6 was to run cross-sections along the east line of Cell 4. Task #7 was to conduct as-built surveys of the 3 existing control structures adjacent to the project area. One structure is in the northwest corner of STA2 and the other 2 are midway along the south line of STA2 and were the limits of the cross-sections as part of Task #1. Task #8 was to detail topographic information in an area known as the PASTA Cell. Task #9 was to locate the existing pond on the west side of Cell 4 and to so soundings of the pond. Where canals were part of the cross-sections, soundings were taken at 5 foot intervals. No cross-sections or soundings were done of the North New River Canal which is along the westerly side of Cell 4. The tasks were not run in order but in a manner to provide the greatest efficiency.

WSM set no additional horizontal or vertical control points. No pictures were required as part of the project's deliverables package in JPG format or in Microsoft Power Point presentation format.

All field work was completed on 10 January 2005.



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Surveyor and Mapper in Responsible Charge:
Jorge Fernandez, II
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